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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,767	12/17/2001	Sung Joon Bae	8733.566.00	2886
30827	7590	01/11/2005	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			NGUYEN, CHANH DUY	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/015,767	BAE ET AL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Chanh Nguyen	2675	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed on July 27, 2004 has been entered and considered by examiner.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuyama et al (U.S. Patent No. 6,556,176) in view of Iida (U.S. Patent No. 6,052,074).

With regard to claim 1, Okuyama et al. teaches a driving circuit for an active matrix electroluminescence device (AMELD) having data and gate drivers that respectively transmit a data signal and a scan signal to each of a plurality of pixel

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regions (figure 4, abstract, and column 1, lines 8-10), comprising: a latch for latching a control signal (figure 4, item 10 ); and a plurality of digital to analog converters (DAC) for outputting a reference current of a certain level as a data signal according to "one or more" channels and the control signal (figure 4, D0, D1, D2, D3, 10, 11, 12, 13).

Okuyama et al. does not illustrate the "one or more" channels being "R/G/B channels" he instead teaches one channel and therefore only capable of monochrome in contrast to the more marketable multicolor display. However lida teaches a multi-channel D/A converter which provides "R/G/B channels" (Abstract, figure 1 ,DR, DG, DB, AR, AG, AB).It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Okuyama et al. active EL monochrome display device to produce color using the "R/G/B channels" taught by lida because lida provides motivational reasons for doing so are in column 1, lines 10-15.

With regard to claim 2 the combination of Okuyama et al. and lida suggest the driving circuit of the active matrix electroluminescence device (AMELD) as claimed in claim 1, wherein the digital to analog conveds include a reference current output unit for outputting the reference current (SEE lida figure 1 Tr1 1, Tr12 ....Tr1n)',and a sink current controller for controlling a level of a sink current according to each R/G/B channel by receiving the reference current from the reference current output unit (SEE lida figure 1 SW1 1, SW12,... SW1n and AR).

With regard to claim 3 the combination of Okuyama et al. and lida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein an output terminal of the sink current controller is connected to a data line

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(SEE Okuyama et al. item 3).

With regard to claim 4 the combination of Okuyama et al. and lida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the reference current output unit temporarily combines a plurality of reference current sources of a plurality of switching devices to output the reference current (SEE Okuyama et al. item 3).

With regard to claim 5 the combination of Okuyama et al. and lida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 1, wherein the control signal is a digital input signal corresponding to a video analog signal (SEE lida figure DR, DG and DB).

With regard to claim 6 the combination of Okuyama et al. and lida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 4, wherein the reference current sources are temporarily set to any one of binary weight and gamma correction methods (SEE lida illustrate the weighting of currents in fig 1).

With regard to claim 7 the combination of Okuyama et al. and lida suggest the driving circuit for an active matrix electroluminescence device as claimed in claim 4, wherein the switching device is a thin film transistor (SEE figure 1 item SWII where TFT is an obvious way to implement a switch).

### ***Allowable Subject Matter***

3. Claims 8-38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments filed July 27, 2004 have been fully considered but they are not persuasive.

On page 9, fourth paragraph, applicant argues that "neither Okuyama et al. nor Iida, singly or in combination, teaches or suggest the claimed invention at least a plurality of digital to analog converters (DAC) for outputting a reference current of a certain level as a data signal according to R/G/B channels and the control signal. Examiner totally disagrees with applicant this point of view since Okuyama clearly teaches plurality of digital to analog converters (DAC) for outputting a reference current of a certain level (i.e. reference current level  $I_t$ ) as a data signal according to one or more channels and the control signal (D0-D3) (see column 4, lines 21-49 and column 5, lines 6-20). The only thing Okuyama does not mention is R/G/B. Iida clearly teaches the R/G/B channels (see column 4, line 65 through column 5, line 15).

On page 5, last paragraph, in response to applicant's argument that "while the devices of both Okuyama et al and Iida may generally perform a function of converting digital signals into analog signals the two devices are not specifically alike in construction or operation". However, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the

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references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

On page 10, second paragraph, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

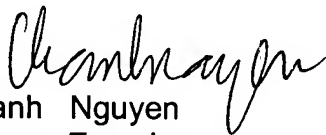
***Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603. The examiner can normally be reached on Monday- Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
C. Nguyen  
January 7, 2005

  
Chanh Nguyen  
Primary Examiner  
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